



## SEQUENCE LISTING

Kopin, Alan S.  
Beinborn, Martin

<120> Constitutively Active, Hypersensitive,  
and Nonfunctional Receptors as Novel Therapeutic Agents

<130> 00398/510002

<140> US 10/039,645

<141> 2001-10-25

<150> US 60/243,550

<151> 2000-10-26

<160> 87

<170> FastSEQ for Windows Version 4.0

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 Lys Ala Leu Asp Phe Arg Thr Pro Leu Lys Ala Lys Ile Ile Asn Ile  
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 195 200 205  
 Gln Phe Pro Asp Asp Asp Tyr Ser Trp Trp Asp Leu Phe Met Lys Ile  
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 Cys Val Phe Ile Phe Ala Phe Val Ile Pro Val Leu Ile Ile Ile Val  
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 Cys Tyr Thr Leu Met Ile Leu Arg Leu Lys Ser Val Arg Leu Leu Ser  
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Cys	His	Pro	Val	Lys	Ala	Leu	Asp	Phe	Arg	Thr	Pro	Leu	Lys	Ala	Lys
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Ile	Ile	Ile	Val	Cys	Tyr	Thr	Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val
			245						250					255	
Arg	Leu	Leu	Ser	Gly	Ser	Arg	Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile
		260						265					270		



Thr	Lys	Ile	Val	Leu	Val	Val	Val	Ala	Val	Phe	Ile	Ile	Cys	Trp	Thr
		275					280					285			
Pro	Ile	His	Ile	Phe	Ile	Leu	Val	Glu	Ala	Leu	Gly	Ser	Thr	Ser	His
	290					295					300				
Ser	Thr	Ala	Val	Leu	Ser	Ser	Tyr	Tyr	Phe	Cys	Ile	Ala	Leu	Gly	Tyr
305				310						315				320	
Thr	Asn	Ser	Ser	Leu	Asn	Pro	Val	Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn
				325					330					335	
Phe	Lys	Arg	Cys	Phe	Arg	Asp	Phe	Cys	Phe	Pro	Ile	Lys	Met	Arg	Met
			340					345					350		
Glu	Arg	Gln	Ser	Thr	Asn	Arg	Val	Arg	Asn	Thr	Val	Gln	Asp	Pro	Ala
		355					360					365			
Ser	Met	Arg	Asp	Val	Gly	Gly	Met	Asn	Lys	Pro	Val				
	370					375					380				

<210> 78  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens

<400> 78															
Met	Asp	Ser	Ser	Ala	Ala	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Ala
1				5					10					15	
Leu	Ala	Tyr	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ser	Trp	Val
			20					25					30		
Asn	Leu	Ser	His	Leu	Asp	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	Asn
		35					40					45			
Arg	Thr	Asp	Leu	Gly	Gly	Arg	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly	Ser
	50					55					60				
Pro	Ser	Met	Ile	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val
65					70					75					80
Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val
				85					90					95	
Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu
			100					105					110		
Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val
		115					120					125			
Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile
	130					135					140				
Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu
145					150					155					160
Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys
				165					170					175	
Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Ile	Asn	Val	Cys
		180						185					190		
Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Ile	Pro	Val	Met	Phe	Met	Ala
	195						200					205			
Thr	Thr	Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser
	210					215					220				
His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Asp	Lys	Ile	Cys	Val	Phe	Ile
225					230					235					240
Phe	Ala	Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu
				245					250					255	
Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu
			260					265					270		
Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val
		275					280					285			

Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile
	290					295					300				
Lys	Ala	Leu	Val	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp
305					310					315					320
His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val
				325					330					335	
Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe
			340					345					350		
Cys	Ile	Pro	Thr	Ser	Ser	Asn	Ile	Glu	Gln	Gln	Asn	Ser	Thr	Arg	Ile
		355					360					365			
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg
	370					375					380				
Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro
385					390					395					400

<210> 79

<211> 398

<212> PRT

<213> Homo sapiens

<400> 79

Met	Asp	Ser	Ser	Thr	Gly	Pro	Gly	Asn	Thr	Ser	Asp	Cys	Ser	Asp	Pro
1				5					10					15	
Leu	Ala	Gln	Ala	Ser	Cys	Ser	Pro	Ala	Pro	Gly	Ser	Trp	Leu	Asn	Leu
			20					25					30		
Ser	His	Val	Asp	Gly	Asn	Gln	Ser	Asp	Pro	Cys	Gly	Leu	Asn	Arg	Thr
	35					40					45				
Gly	Leu	Gly	Gly	Asn	Asp	Ser	Leu	Cys	Pro	Gln	Thr	Gly	Ser	Pro	Ser
50				55						60					
Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val	Cys	Val
65				70					75					80	
Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val	Arg	Tyr
			85					90						95	
Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	Ala	Leu
			100				105						110		
Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val	Asn	Tyr
	115						120					125			
Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile	Val	Ile
130						135					140				
Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Cys	Thr
145					150				155					160	
Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu
			165					170						175	
Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val	Asn	Val	Cys	Asn	Trp
			180				185					190			
Ile	Leu	Ser	Ser	Ala	Ile	Gly	Ile	Pro	Val	Met	Phe	Met	Ala	Thr	Thr
		195					200					205			
Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	His	Pro
210						215					220				
Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Phe	Ala
225				230						235					240
Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Ile
			245					250						255	
Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp
			260				265						270		
Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Ala	Val
	275						280						285		

Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile	Lys	Ala
290						295					300				
Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp	His	Phe
305					310					315					320
Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	Leu	Tyr
				325					330					335	
Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	Cys	Ile
			340					345					350		
Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Gln	Asn	Ser	Thr	Arg	Val	Arg	Gln
		355					360					365			
Asn	Thr	Arg	Glu	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg	Thr	Asn
	370					375					380				
His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro		
385					390					395					

<210> 80  
 <211> 372  
 <212> PRT  
 <213> Homo sapiens

<400> 80															
Met	Glu	Pro	Ala	Pro	Ser	Ala	Gly	Ala	Glu	Leu	Gln	Pro	Pro	Leu	Phe
1				5					10					15	
Ala	Asn	Ala	Ser	Asp	Ala	Tyr	Pro	Ser	Ala	Cys	Pro	Ser	Ala	Gly	Ala
			20					25					30		
Asn	Ala	Ser	Gly	Pro	Pro	Gly	Ala	Arg	Ser	Ala	Ser	Ser	Leu	Ala	Leu
		35					40					45			
Ala	Ile	Ala	Ile	Thr	Ala	Leu	Tyr	Ser	Ala	Val	Cys	Ala	Val	Gly	Leu
	50					55					60				
Leu	Gly	Asn	Val	Leu	Val	Met	Phe	Gly	Ile	Val	Arg	Tyr	Thr	Lys	Met
65					70					75					80
Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	Ala	Leu	Ala	Asp	Ala
				85					90					95	
Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Ala	Lys	Tyr	Leu	Met	Glu
			100					105					110		
Thr	Trp	Pro	Phe	Gly	Glu	Leu	Leu	Cys	Lys	Ala	Val	Ile	Ser	Ile	Asp
		115					120					125			
Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Thr	Met	Met	Ser	Val
	130					135					140				
Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu	Asp	Phe	Arg
145					150					155					160
Thr	Pro	Ala	Lys	Ala	Lys	Ile	Ile	Asn	Ile	Cys	Ile	Trp	Val	Leu	Ala
				165					170					175	
Ser	Gly	Val	Gly	Val	Pro	Ile	Met	Val	Met	Ala	Val	Thr	Arg	Pro	Arg
			180					185				190			
Asp	Gly	Ala	Val	Val	Cys	Met	Leu	Gln	Phe	Pro	Ser	Pro	Ser	Trp	Tyr
		195					200					205			
Trp	Asp	Thr	Val	Thr	Lys	Ile	Cys	Val	Phe	Leu	Phe	Ala	Phe	Val	Val
	210					215					220				
Pro	Ile	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Leu	Leu	Arg	Leu
225					230					235					240
Arg	Ser	Val	Arg	Leu	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp	Arg	Ser	Leu
				245					250					255	
Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Gly	Ala	Phe	Val	Val
		260					265					270			
Cys	Trp	Ala	Pro	Ile	His	Ile	Phe	Val	Ile	Val	Trp	Thr	Leu	Val	Asp
		275					280					285			

Ile	Asp	Arg	Arg	Asp	Pro	Leu	Val	Val	Ala	Ala	Leu	His	Leu	Cys	Ile
290						295					300				
Ala	Leu	Gly	Tyr	Ala	Asn	Ser	Ser	Leu	Asn	Pro	Val	Leu	Tyr	Ala	Phe
305					310					315					320
Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Gln	Leu	Cys	Arg	Lys	Pro
				325					330					335	
Cys	Gly	Arg	Pro	Asp	Pro	Ser	Ser	Phe	Ser	Arg	Ala	Arg	Glu	Ala	Thr
			340					345					350		
Ala	Arg	Glu	Arg	Val	Thr	Ala	Cys	Thr	Pro	Ser	Asp	Gly	Pro	Gly	Gly
		355					360					365			
Gly	Ala	Ala	Ala												
370															

<210> 81  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 81															
Met	Ala	Leu	Asn	Ser	Ser	Ala	Glu	Asp	Gly	Ile	Lys	Arg	Ile	Gln	Asp
1				5					10					15	
Asp	Cys	Pro	Lys	Ala	Gly	Arg	His	Ser	Tyr	Ile	Phe	Val	Met	Ile	Pro
			20					25					30		
Thr	Leu	Tyr	Ser	Ile	Ile	Phe	Val	Val	Gly	Ile	Phe	Gly	Asn	Ser	Leu
		35				40						45			
Val	Val	Ile	Val	Ile	Tyr	Phe	Tyr	Met	Lys	Leu	Lys	Thr	Val	Ala	Ser
	50					55					60				
Val	Phe	Leu	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Leu	Cys	Phe	Leu	Leu	Thr
65				70					75						80
Leu	Pro	Leu	Trp	Ala	Val	Tyr	Thr	Ala	Met	Glu	Tyr	Arg	Trp	Pro	Phe
			85						90					95	
Gly	Asn	His	Leu	Cys	Lys	Ile	Ala	Ser	Ala	Ser	Val	Thr	Glu	Asn	Leu
			100					105					110		
Tyr	Ala	Ser	Val	Phe	Leu	Leu	Thr	Cys	Leu	Ser	Ile	Asp	Arg	Tyr	Leu
	115						120					125			
Ala	Ile	Val	His	Pro	Met	Lys	Ser	Arg	Leu	Arg	Arg	Thr	Met	Leu	Val
	130					135					140				
Ala	Lys	Val	Thr	Cys	Ile	Ile	Trp	Leu	Met	Ala	Gly	Leu	Ala	Ser	
145				150					155					160	
Leu	Pro	Ala	Val	Ile	His	Arg	Asn	Val	Tyr	Phe	Ile	Glu	Asn	Thr	Asn
			165						170					175	
Ile	Thr	Val	Cys	Ala	Phe	His	Tyr	Glu	Ser	Arg	Asn	Ser	Thr	Leu	Pro
		180					185						190		
Ile	Gly	Leu	Gly	Leu	Thr	Lys	Asn	Ile	Leu	Gly	Phe	Leu	Phe	Pro	Phe
	195					200					205				
Leu	Ile	Ile	Ile	Thr	Ser	Tyr	Thr	Leu	Ile	Trp	Lys	Ala	Leu	Lys	Lys
	210					215					220				
Ala	Tyr	Glu	Ile	Gln	Lys	Asn	Lys	Pro	Arg	Asn	Asp	Asp	Ile	Phe	Arg
225				230						235					240
Ile	Ile	Met	Ala	Ile	Val	Leu	Phe	Phe	Phe	Phe	Ser	Trp	Val	Pro	His
			245						250					255	
Gln	Ile	Phe	Thr	Phe	Leu	Asp	Val	Leu	Ile	Gln	Leu	Gly	Val	Ile	His
		260					265					270			
Asp	Cys	Lys	Ile	Ser	Asp	Ile	Val	Asp	Thr	Ala	Met	Pro	Ile	Thr	Ile
	275					280						285			
Cys	Ile	Ala	Tyr	Phe	Asn	Asn	Cys	Leu	Asn	Pro	Leu	Phe	Tyr	Gly	Phe
	290					295					300				

Leu	Gly	Lys	Lys	Phe	Lys	Lys	Tyr	Phe	Leu	Gln	Leu	Leu	Lys	Tyr	Ile
305					310					315					320
Pro	Pro	Lys	Ala	Lys	Ser	His	Ser	Ser	Leu	Ser	Thr	Lys	Met	Ser	Thr
				325					330					335	
Leu	Ser	Tyr	Arg	Pro	Ser	Asp	Asn	Met	Ser	Ser	Ser	Ala	Lys	Lys	Pro
			340					345					350		
Ala	Ser	Cys	Phe	Glu	Val	Glu									
		355													

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 <211> 391  
 <212> PRT  
 <213> Homo sapiens

<400> 82															
Met	Phe	Ser	Pro	Trp	Lys	Ile	Ser	Met	Phe	Leu	Ser	Val	Arg	Glu	Asp
1				5					10					15	
Ser	Val	Pro	Thr	Thr	Ala	Ser	Phe	Ser	Ala	Asp	Met	Leu	Asn	Val	Thr
			20					25					30		
Leu	Gln	Gly	Pro	Thr	Leu	Asn	Gly	Thr	Phe	Ala	Gln	Ser	Lys	Cys	Pro
		35					40					45			
Gln	Val	Glu	Trp	Leu	Gly	Trp	Leu	Asn	Thr	Ile	Gln	Pro	Pro	Phe	Leu
	50					55					60				
Trp	Val	Ile	Phe	Val	Leu	Ala	Thr	Leu	Glu	Asn	Ile	Phe	Val	Leu	Ser
65					70					75					80
Val	Phe	Cys	Leu	His	Lys	Ser	Ser	Cys	Thr	Val	Ala	Glu	Ile	Tyr	Leu
				85					90					95	
Gly	Asn	Leu	Ala	Ala	Ala	Asp	Leu	Ile	Leu	Ala	Cys	Gly	Leu	Pro	Phe
			100					105					110		
Trp	Ala	Ile	Thr	Ile	Ser	Asn	Asn	Phe	Asp	Trp	Leu	Phe	Gly	Glu	Thr
		115				120						125			
Leu	Cys	Arg	Val	Val	Asn	Ala	Ile	Ile	Ser	Met	Asn	Leu	Tyr	Ser	Ser
		130				135					140				
Ile	Cys	Phe	Leu	Met	Leu	Val	Ser	Ile	Asp	Arg	Tyr	Leu	Ala	Leu	Val
145					150					155					160
Lys	Thr	Met	Ser	Met	Gly	Arg	Met	Arg	Gly	Val	Arg	Trp	Ala	Lys	Leu
				165					170					175	
Tyr	Ser	Leu	Val	Ile	Trp	Gly	Cys	Thr	Leu	Leu	Leu	Ser	Ser	Pro	Met
			180					185					190		
Leu	Val	Phe	Arg	Thr	Met	Lys	Glu	Tyr	Ser	Asp	Glu	Gly	His	Asn	Val
		195					200					205			
Thr	Ala	Cys	Val	Ile	Ser	Tyr	Pro	Ser	Leu	Ile	Trp	Glu	Val	Phe	Thr
	210					215					220				
Asn	Met	Leu	Leu	Asn	Val	Val	Gly	Phe	Leu	Leu	Pro	Leu	Ser	Val	Ile
225					230					235					240
Thr	Phe	Cys	Thr	Met	Gln	Ile	Met	Gln	Val	Leu	Arg	Asn	Asn	Glu	Met
				245					250					255	
Gln	Lys	Phe	Lys	Glu	Ile	Gln	Thr	Glu	Arg	Arg	Ala	Thr	Val	Leu	Val
			260					265					270		
Leu	Val	Val	Leu	Leu	Leu	Phe	Ile	Ile	Cys	Trp	Leu	Pro	Phe	Gln	Ile
		275					280					285			
Ser	Thr	Phe	Leu	Asp	Thr	Leu	His	Arg	Leu	Gly	Ile	Leu	Ser	Ser	Cys
	290					295					300				
Gln	Asp	Glu	Arg	Ile	Ile	Asp	Val	Ile	Thr	Gln	Ile	Ala	Ser	Phe	Met
305					310					315					320
Ala	Tyr	Ser	Asn	Ser	Cys	Leu	Asn	Pro	Leu	Val	Tyr	Val	Ile	Val	Gly
				325					330					335	

Lys	Arg	Phe	Arg	Lys	Lys	Ser	Trp	Glu	Val	Tyr	Gln	Gly	Val	Cys	Gln
			340					345					350		
Lys	Gly	Gly	Cys	Arg	Ser	Glu	Pro	Ile	Gln	Met	Glu	Asn	Ser	Met	Gly
		355					360					365			
Thr	Leu	Arg	Thr	Ser	Ile	Ser	Val	Glu	Arg	Gln	Ile	His	Lys	Leu	Gln
	370					375					380				
Asp	Trp	Ala	Gly	Ser	Arg	Gln									
385					390										

<210> 83  
 <211> 398  
 <212> PRT  
 <213> Homo sapiens

<400> 83

Met	Asp	Ser	Ser	Ala	Gly	Pro	Gly	Asn	Ile	Ser	Asp	Cys	Ser	Asp	Pro
1				5					10					15	
Leu	Ala	Pro	Ala	Ser	Cys	Ser	Pro	Ala	Pro	Gly	Ser	Trp	Leu	Asn	Leu
			20					25					30		
Ser	His	Val	Asp	Gly	Asn	Gln	Ser	Asp	Pro	Cys	Gly	Pro	Asn	Arg	Thr
	35					40						45			
Gly	Leu	Gly	Gly	Ser	His	Ser	Leu	Cys	Pro	Gln	Thr	Gly	Ser	Pro	Ser
	50					55					60				
Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val	Cys	Val
65				70						75					80
Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val	Arg	Tyr
			85					90						95	
Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	Ala	Leu
			100					105					110		
Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val	Asn	Tyr
	115						120					125			
Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Asn	Ile	Leu	Cys	Lys	Ile	Val	Ile
	130					135					140				
Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Cys	Thr
145					150					155					160
Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu
			165						170					175	
Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val	Asn	Val	Cys	Asn	Trp
			180					185					190		
Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met	Ala	Thr	Thr
	195						200					205			
Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	His	Pro
	210					215					220				
Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Phe	Ala
225				230						235					240
Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Ile
			245						250					255	
Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp
			260					265					270		
Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Ala	Val
	275						280					285			
Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile	Lys	Ala
	290					295					300				
Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp	His	Phe
305					310					315					320
Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	Leu	Tyr
			325						330					335	

Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	Cys	Ile
			340					345					350		
Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Gln	Asn	Ser	Ala	Arg	Ile	Arg	Gln
		355					360					365			
Asn	Thr	Arg	Glu	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg	Thr	Asn
	370					375					380				
His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro		
385					390					395					

<210> 84  
 <211> 405  
 <212> PRT  
 <213> Homo sapiens

<400> 84															
Met	Asp	Ser	Gly	Ala	Val	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Ile	Asp	Pro
1				5					10					15	
Phe	Thr	His	Pro	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Ser	Ser	Trp
			20					25					30		
Val	Asn	Phe	Ser	His	Leu	Glu	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro
		35					40					45			
Asn	Arg	Thr	Glu	Leu	Gly	Gly	Ser	Asp	Arg	Leu	Cys	Pro	Ser	Ala	Gly
	50					55					60				
Ser	Pro	Ser	Met	Ile	Thr	Ala	Met	Val	Thr	Ala	Ile	Ile	Ile	Met	Ala
65				70					75					80	
Leu	Tyr	Ser	Ile	Val	Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val
			85					90					95		
Met	Tyr	Val	Ile	Val	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile
		100						105					110		
Tyr	Ile	Phe	Asn	Leu	Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu
	115					120						125			
Pro	Phe	Gln	Ser	Val	Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr
	130					135					140				
Ile	Leu	Cys	Lys	Ile	Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr
145				150					155					160	
Ser	Ile	Phe	Thr	Leu	Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val
			165					170					175		
Cys	His	Pro	Val	Lys	Ala	Leu	Asp	Leu	Arg	Thr	Pro	Arg	Asn	Ala	Lys
		180						185					190		
Ile	Ile	Asn	Ile	Cys	Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro
		195				200						205			
Val	Met	Phe	Met	Ala	Thr	Thr	Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys
	210				215						220				
Thr	Leu	Thr	Phe	Ser	His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys
225				230					235					240	
Ile	Cys	Val	Phe	Ile	Phe	Ala	Phe	Ile	Met	Pro	Ile	Leu	Ile	Ile	Thr
			245					250					255		
Val	Cys	Tyr	Gly	Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu
		260					265					270			
Ser	Gly	Ser	Lys	Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met
	275					280						285			
Val	Leu	Val	Val	Val	Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His
	290				295						300				
Ile	Tyr	Val	Ile	Ile	Lys	Ala	Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe
305					310				315						320
Gln	Thr	Val	Ser	Trp	His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser
			325					330						335	

Cys Leu Asn Pro Val Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Arg  
                           340                          345                          350  
 Cys Phe Arg Glu Phe Cys Ile Pro Thr Ser Ser Thr Ile Glu Gln Gln  
                           355                          360                          365  
 Asn Ser Thr Arg Ile Arg Gln Asn Thr Arg Asp His Pro Ser Thr Ala  
                           370                          375                          380  
 Asn Thr Val Asp Arg Thr Asn His Gln Leu Glu Asn Leu Glu Ala Glu  
 385                          390                          395                          400  
 Thr Thr Pro Leu Pro  
                           405

<210> 85  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Met Asp Ser Ser Ala Ala Pro Thr Asn Ala Ser Asn Cys Thr Asp Ala  
 1                          5                          10                          15  
 Leu Ala Tyr Ser Ser Cys Ser Pro Ala Pro Ser Pro Gly Ser Trp Val  
                           20                          25                          30  
 Asn Leu Ser His Leu Asp Gly Asn Leu Ser Asp Pro Cys Gly Pro Asn  
                           35                          40                          45  
 Arg Thr Asp Leu Gly Gly Arg Asp Ser Leu Cys Pro Pro Thr Gly Ser  
                           50                          55                          60  
 Pro Ser Met Ile Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val  
 65                          70                          75                          80  
 Cys Val Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val  
                           85                          90                          95  
 Arg Tyr Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu  
                           100                          105                          110  
 Ala Leu Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val  
                           115                          120                          125  
 Asn Tyr Leu Met Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile  
                           130                          135                          140  
 Val Ile Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu  
 145                          150                          155                          160  
 Cys Thr Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys  
                           165                          170                          175  
 Ala Leu Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Ile Asn Val Cys  
                           180                          185                          190  
 Asn Trp Ile Leu Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala  
                           195                          200                          205  
 Thr Thr Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser  
                           210                          215                          220  
 His Pro Thr Trp Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile  
 225                          230                          235                          240  
 Phe Ala Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu  
                           245                          250                          255  
 Met Ile Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu  
                           260                          265                          270  
 Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val  
                           275                          280                          285  
 Ala Val Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile  
                           290                          295                          300  
 Lys Ala Leu Val Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp  
 305                          310                          315                          320



His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val
				325					330					335	
Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe
			340					345					350		
Cys	Ile	Pro	Thr	Ser	Ser	Asn	Ile	Glu	Gln	Gln	Asn	Ser	Thr	Arg	Ile
		355					360					365			
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg
	370					375					380				
Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro
385					390					395					400

<210> 86  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens

<400> 86															
Met	Asp	Ser	Ser	Ala	Asp	Pro	Arg	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Pro
1				5					10					15	
Phe	Ser	Pro	Ser	Ser	Met	Cys	Ser	Pro	Val	Pro	Ser	Pro	Ser	Ser	Trp
			20					25					30		
Val	Asn	Phe	Ser	His	Leu	Glu	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Ile	Arg
		35					40					45			
Asn	Arg	Thr	Glu	Leu	Gly	Gly	Ser	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly
	50					55					60				
Ser	Pro	Ser	Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile
65					70					75					80
Val	Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile
				85					90					95	
Val	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn
			100					105					110		
Leu	Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser
		115					120					125			
Val	Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys
	130					135					140				
Ile	Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr
145					150					155					160
Leu	Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val
			165					170						175	
Lys	Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Ile	Asn	Val
		180						185					190		
Cys	Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met
		195					200					205			
Ala	Thr	Thr	Lys	Tyr	Arg	Asn	Gly	Ser	Ile	Asp	Cys	Ala	Leu	Thr	Phe
	210					215				220					
Ser	His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe
225					230					235					240
Ile	Phe	Ala	Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly
			245						250					255	
Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys
		260						265					270		
Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val
		275					280					285			
Val	Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile
	290					295					300				
Ile	Lys	Ala	Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser
305					310					315					320

Trp	His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro
				325					330					335	
Val	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe
		340						345					350		
Cys	Ile	Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Gln	Asn	Ser	Ala	Arg	Ile
		355					360					365			
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg
	370					375					380				
Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro
385					390					395					400

<210> 87  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 87

Met	Glu	Thr	Ser	Gly	Asn	Ile	Ser	Asp	Phe	Leu	Tyr	Pro	Leu	Ser	Asn
1				5					10					15	
Pro	Val	Met	Ser	Asn	Ser	Ser	Val	Leu	Cys	Arg	Asn	Phe	Ser	Asn	Ser
		20						25					30		
Thr	Ser	Phe	Leu	Asn	Met	Asn	Gly	Ser	Ser	Arg	Asp	Ser	Thr	Asp	Glu
		35					40					45			
Gln	Asp	Lys	Thr	Pro	Val	Ile	Ile	Ala	Ile	Ile	Ile	Thr	Thr	Leu	Tyr
	50					55					60				
Ser	Ile	Val	Cys	Val	Val	Gly	Leu	Val	Gly	Asn	Val	Leu	Val	Met	Tyr
65					70					75				80	
Val	Ile	Ile	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile
			85						90					95	
Phe	Asn	Leu	Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe
		100						105					110		
Gln	Ser	Val	Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Asp	Val	Val
		115					120					125			
Cys	Lys	Ile	Val	Met	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile
	130					135					140				
Phe	Thr	Leu	Thr	Thr	Met	Ser	Ile	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His
145					150					155				160	
Pro	Val	Lys	Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val
			165						170					175	
Asn	Val	Cys	Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met
		180						185					190		
Val	Met	Ala	Ser	Thr	Thr	Ile	Glu	Asn	Gln	Asn	Ser	Pro	Leu	Gln	Val
	195						200					205			
Ser	Asn	Phe	Asp	Cys	Thr	Leu	Leu	Phe	Pro	His	Pro	Pro	Trp	Tyr	Trp
	210					215					220				
Glu	Thr	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Leu	Ala	Phe	Ile	Met	Pro
225					230					235				240	
Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Ile	Leu	Arg	Leu	Lys
			245						250					255	
Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp	Arg	Asn	Leu	Arg
		260						265					270		
Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Ala	Val	Phe	Ile	Ile	Cys
	275						280					285			
Trp	Thr	Pro	Ile	His	Ile	Glu	Val	Ile	Ile	Lys	Ala	Leu	Val	Thr	Ile
	290					295				300					
Pro	Asn	Ser	Leu	Phe	Gln	Thr	Val	Thr	Trp	His	Phe	Cys	Ile	Ala	Leu
305					310					315					320

Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	Leu	Tyr	Ala	Phe	Leu	Asp
				325					330					335	
Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	Cys	Val	Pro	Ser	Pro	Ser
			340					345					350		
Val	Leu	Asp	Leu	Gln	Asn	Ser	Thr	Arg	Asn	Ser	Asn	Pro	Gln	Cys	Glu
		355					360					365			
Gly	Gln	Ser	Ser	Gly	His	Lys	Val	Asp	Arg	Asn	Asn	Arg	Gln	Val	
	370					375					380				